

Knowledge of Medical Students about Infant Feeding Practices

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ABSTRACT

Objectives: To compare medical student's knowledge about breast feeding practices at the induction and exit from medical college.

Study design: Comparative study

Place and duration of study: Department of Pediatrics, University College of Medicine & Dentistry, The University of Lahore. Study was conducted from January 2019 to December 2019.

Material and method: Total 200 students were enrolled, 100 from first year and 100 from final year class. Ethical approval was taken from ethical review committee data was collected on hand filled questionnaire.

Results: There were 39.5% males and 60.5% female students. The ANOVA test of the variance was applied to compare the knowledge of first year and final year students. Final year students have a good knowledge regarding timing of initiation and pattern of breastfeeding whereas knowledge regarding advice of pre-lacteal, continuation of breastfeeding up to 6 months and frequency of complementary feeding for initial days was lacking in both first year and final year MBBS students.

Conclusion: This study concludes that our curriculum has incorporated adequate knowledge regarding benefits of breast feeding, but the students lack practical knowledge and skills of counseling the parents about avoiding pre-lacteal feeds and promoting complementary feeding, that is also essential for child growth and development.

Keywords: Medical college, Curriculum, Exclusive Breast feeding (EBF), complementary feeding.

INTRODUCTION

A healthy start in life is the most precious gift that parents can give to their newborns. Mother's milk is an ideal diet for the optimal growth and development of infant. It also potentiates the natural immunity of the baby. There is no substitute to the human milk¹. WHO meta-analyses indicated that exclusive breast feeding not only provides protection against child infections and malocclusion, but is also associated with increased intelligence, as well as likely reductions in overweight and diabetes².

Colostrum is the first form of milk produced by the mammary glands of mammals immediately following delivery of the newborn. Colostrum contains antibodies to protect the newborn against disease and infection, and immune and growth factors and other bioactives that help to activate a newborn's immune system, jump start gut function, and seed a healthy gut microbiome in the first few days of life. The bioactives found in colostrum are essential for a newborn's health, growth and vitality. Colostrum also has a mild laxative effect, encouraging the passing of the meconium³.

World Health Organization (WHO) stated that breastfeeding has a pivotal role in optimizing the health of mothers and babies. It also recommends that exclusive breastfeeding (EBF) must be continued for the 1st six months of life and complementary feeding should be started at 6 months of age. Breastfeeding should continue till 2 years of age⁴.

Around the age of 6 months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk, and complementary foods are necessary to meet those needs. An infant of this age is also developmentally ready for other foods. This transition is referred to as complementary feeding. If complementary foods are not introduced around the age of 6 months, or if they are given inappropriately, an infant's growth may falter. Ensuring that infants nutritional needs are met requires that complementary foods be: timely –adequate –safe –properly fed⁵.

Complementary feeding – typically covers the period from 6–24 months of age, even though breastfeeding may continue to two years of age and beyond. This is a critical period of growth during which nutrient deficiencies and illnesses contribute globally to higher rates of undernutrition among children under five years of age⁶.

In WHO press release on August 2017, it was stated that EBF could save the lives of millions of children under the age of 5 years. According to a report by WHO-UNICEF, only 23 countries in

the world have EBF rates above 60%. In Pakistan EBF rate up to 6 months is only 37.7%⁷.

WHO's goal is to reach a 50% universal exclusive breastfeeding rate till 2025 that will help to reduce sufficiently the mortality rate of both the mothers and children up to 5 years of age⁷.

The WHO announced its ten steps initiative for proper breastfeeding but it was found that there is poor knowledge and compliance by female health care workers in maternity units of tertiary care hospitals across the globe⁸.

A study done in Saudi Arabia revealed that factors that play important role in longer duration and higher rate of breastfeeding were advanced maternal age, low education, living in rural areas/urban slums, increased parity and avoidance of contraceptive practices. On the other hand, insufficient milk production, un-spaced pregnancies and maternal chronic illnesses were reported as common barriers⁹. Global community whether from low/middle income or from high-income countries is still unaware of adverse effects of substandard breastfeeding practices¹⁰.

Previously there are limited number of studies in which knowledge of medical undergraduates was assessed regarding breast feeding specially in Pakistan. Importance of breast feeding has been emphasized by Pakistan medical commission (PMC) by incorporating the benefits of breast feeding in the undergraduate medical curriculum for the past eight decades or so, but when it comes to implementation of the knowledge to practice there are many flaws in the teaching and learning of the art and science of counseling the parents about it both in prenatal and postnatal care. This study was conducted to compare the knowledge of first year with final year medical graduate students, assuming the first-year students as representatives of the community and final year students as the reflectors of medical syllabus in medical colleges. This will help us to identify the deficiency of medical curricular regarding breast feeding and help in training them for effective counseling skills.

MATERIAL AND METHODS

This cross-sectional study was conducted in Department of Pediatric Medicine, The University of Lahore teaching hospital, Lahore from January 2019 to December 2019. A total of 200 hundred participants were selected using convenient sampling technique. There were 100 students each from first year and final

year M.B.B.S respectively. A proforma was designed regarding knowledge of breastfeeding in newborns. It was validated by 2 medical educationists from the medical education department of UCMD. Proforma was distributed to the 1st year students after a lecture during their first week of entry in to the medical college. The final year students were asked to fill in the questionnaire at the end of the Paediatrics ward rotations. Identity of students was kept confidential. Data was entered and analyzed using SPSS 22. Frequency and percentages were calculated for qualitative variable and quantitative variables were presented as mean and standard deviation. The ANOVA test of the variance was applied to compare the knowledge of first year and final year students.

RESULTS

In our study 50% of students were from first year and 50% were from final year with mean age of 19.8±1.2 years in first year class and 23.7±1.0 in final year class. There were 39.5% males and 60.5% female students as shown in figure 1. The question regarding time of initiation of breastfeeding, consumption of colostrum, frequency of feeding, knowledge of correct attachment of baby, duration of exclusive breast feeding, age of introducing complementary feeding, quantity of complementary feeding for initial days and consistency of complementary feeding was correctly answered by final year students as compared to first year students, p value was significant in all cases i.e., less than 0.05 (Table.1). Whereas the knowledge regarding advice on pre-lacteals, continuation of breastfeeding up to 6 months and frequency of complementary feeding for initial days was lacking in both first year and final year MBBS students.

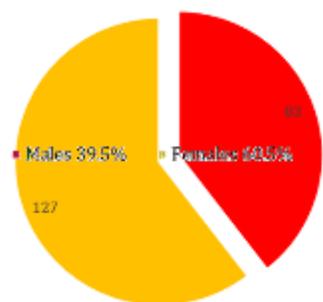


Fig. 1:

Table 1:

		MBBS		Total	p-value
		First year	Final year		
Time of initiation of breast-feeding	within 15min	18(60.0%)	12(40.0%)	30(100.0%)	0.001
	within 30min	45(60.8%)	29(39.2%)	74(100.0%)	
	soon after birth	37(34.9%)	69(65.1%)	106(100.0%)	
Colostrum to be given	Should be given	42(30.7%)	95(69.3%)	137(100.0%)	0.000
	Discard	18(69.2%)	8(30.8%)	26(100.0%)	
	don't know	40(87.0%)	6(13.0%)	46(100.0%)	
Advice on pre-lacteals	should be given	53(49.1%)	55(50.9%)	108(100.0%)	0.535
	avoid	16(40.0%)	24(60.0%)	40(100.0%)	
	don't know	30(49.2%)	31(50.8%)	61(100.0%)	
Frequency of feeding	On demand	41(41.8%)	57(58.2%)	98(100.0%)	0.002
	2 hourly	20(37.7%)	33(62.3%)	53(100.0%)	
	4 hourly	18(56.2%)	14(43.8%)	32(100.0%)	
	don't know	21(80.8%)	5(19.2%)	26(100.0%)	
Duration of exclusive breast feeding	5 months	19(18.3%)	85(81.7%)	104(100.0%)	0.000
	6 months	12(70.6%)	5(29.4%)	17(100.0%)	
	9 months	53(75.7%)	17(24.3%)	70(100.0%)	
	don't know	16(84.2%)	3(15.8%)	19(100.0%)	
Continuation of breast-feeding up to	2 years	58(44.6%)	72(55.4%)	130(100.0%)	0.194
	1 years	9(47.4%)	10(52.6%)	19(100.0%)	
	1.5 years	25(49.0%)	26(51.0%)	51(100.0%)	
	don't know	8(80.0%)	2(20.0%)	10(100.0%)	

Table 2:

		MBBS		Total	p-value
		First year	Final year		
Age of introducing complementary feeding	5 months	6(46.2%)	7(53.8%)	13(100.0%)	0.000
	6 months	27(23.7%)	87(76.3%)	114(100.0%)	
	9 months	21(72.4%)	8(27.6%)	29(100.0%)	
	don't know	46(85.2%)	8(14.8%)	54(100.0%)	
Frequency of complementary feeding for initial days	2-3 times in a day	28(40.6%)	41(59.4%)	69(100.0%)	0.119
	once a day	24(45.3%)	29(54.7%)	53(100.0%)	
	4-5 times in a day	18(45.0%)	22(55.0%)	40(100.0%)	
	don't know	30(62.5%)	18(37.5%)	48(100.0%)	
Quantity of complementary feeding for initial days	2-3 TSF	25(31.2%)	55(68.8%)	80(100.0%)	0.002
	1 cup	16(51.6%)	15(48.4%)	31(100.0%)	
	1TSF	9(52.9%)	8(47.1%)	17(100.0%)	
	don't know	50(61.0%)	32(39.0%)	82(100.0%)	
Consistency of complementary feeding	well mashed	21(26.9%)	57(73.1%)	78(100.0%)	0.002
	semi solid	14(29.2%)	34(70.8%)	48(100.0%)	
	Liquid	35(76.1%)	11(23.9%)	46(100.0%)	
	don't know	30(78.9%)	8(21.1%)	38(100.0%)	

DISCUSSION

In our study 50% of students were from first year and 50% were from final year with mean age of 19.8±1.2 years in first year class and 23.7±1.0 in final year class. There were 39.5% males and 60.5% female students. The question regarding time of initiation of breastfeeding, consumption of colostrum, frequency of feeding, knowledge of correct attachment of baby, duration of exclusive breast feeding, age of introducing complementary feeding, quantity of complementary feeding for initial days and consistency of complementary feeding was correctly answered by final year students as compared to first year students, p value was significant in all cases i.e., less than 0.05. whereas knowledge regarding advice on pre-lacteals, continuation of breastfeeding up to 6 months and frequency of complementary feeding for initial days was lacking in both first year and final year MBBS students. Our results are more positive as compared to previously done studies like a study conducted by Kakrani¹¹ in 2015 in India showed that the knowledge of 4th year and 1st year MBBS students regarding 10 steps of Baby-Friendly Hospital Initiative (BFHI) showed a statistically similar result. They also compared the 4th year MBBS students with 4th nursing students and found that there was not much difference between the two of them.

Amin¹² in 2014 conducted a study in Saudi Arabia to determine the knowledge of undergraduate female medical students and education students regarding breastfeeding. Students in the senior classes, married students (22.1%) and students from rural areas (44.7%) had more positive response towards breastfeeding than their counterparts.

Dodgson¹³ in 2014 conducted a study in USA to check the knowledge and frame of mind of health science university students toward formula feeding and breastfeeding. A significant number of students favors the importance of breastfeeding in the study.

Vandewark¹⁴ in 2014 conducted a study in USA to determine the knowledge and attitudes of breastfeeding in undergraduate nursing students at the start and at the end of their educational year. Students at senior level has higher knowledge about breastfeeding following their nursing education.

Brodrribb¹⁵ carried a study in Australia that shows that female general practitioners who have limited personal breastfeeding duration had lower breastfeeding attitudes however; their knowledge was same to those who had never breastfed.

A local study conducted in Karachi by Qudsia et al¹⁶ stated that out of 344, 69% students answered correctly regarding immediate start of breastfeeding, 42% said that EBF should be continued for 4-6 months and 33% of students correctly answered about initiation of complementary feeding time. Twenty-six percent of the students did not know the benefit of colostrum.

According to a study conducted on female medical students about breastfeeding practices at Mansoura Faculty of Medicine, 77% answered that breastfeeding should be started soon after birth and 63.2% said that breastfeeding should continue for twenty-four months. Fifty percent said that EBF should be continued for 4-6 months. Majority of students thought that colostrum is beneficial¹⁷.

Another study done in India showed that that the correct knowledge of time of initiation of breastfeeding is 82% and 61.5% in medical and nursing students respectively. 99% and 73.6% of medical and nursing students are aware of giving colostrum¹⁸.

All the data available in local and international research validates the results of our study.

CONCLUSION

This study concludes that our curriculum has incorporated adequate knowledge regarding breast feeding but there should be more focus on discouraging the use of pre-lacteals and promoting complementary feeding which is also essential for child growth and development.

To improve the knowledge of general population it is recommended that breast feeding and complementary feeding topic should be part of curriculum at higher secondary level.

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